



Source Water Assessment Program (SWAP) Report for Mount Everett School

What is SWAP?

The Source Water Assessment Program (SWAP), established under the federal Safe Drinking Water Act, requires every state to:

- inventory land uses within the recharge areas of all public water supply sources;
- assess the susceptibility of drinking water sources to contamination from these land uses; and
- publicize the results to provide support for improved protection.

SWAP and Water Quality

Susceptibility of a drinking water source does *not* imply poor water quality. Actual water quality is best reflected by the results of regular water tests.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

Prepared by the
Massachusetts Department of
Environmental Protection,
Bureau of Resource Protection,
Drinking Water Program

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Table 1: Public Water System (PWS) Information

<i>PWS Name</i>	Mount Everett School
<i>PWS Address</i>	Berkshire School Road
<i>City/Town</i>	Sheffield, Massachusetts
<i>PWS ID Number</i>	1267003
<i>Local Contact</i>	Mr. Paul Baumann
<i>Phone Number</i>	413-229-7858

<i>Well Name</i>	<i>Source ID#</i>	<i>Zone I (in feet)</i>	<i>IWPA (in feet)</i>	<i>Source Susceptibility</i>
Well #1	1267003-01G	328	1136	High

INTRODUCTION

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential contaminant sources, including septic systems, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

Purpose of this report:

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential sources of contamination, the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

This report includes:

1. Description of the Water System
2. Discussion of Land Uses within Protection Areas
3. Recommendations for Protection
4. Attachments, including a Map of the Protection Areas

1. DESCRIPTION OF THE WATER SYSTEM

Mount Everett School has a total staff and student population of approximately 1,085 people and is located in a rural setting surrounded primarily by woodland, wetland, and rural residential land uses. The school is a regional Elementary, Middle and High School and Well #1 is the sole source of water for the school. The well is located within the old, abandoned boiler room. During the reconstruction and expansion of the school in 1991, several attempts were made to drill a new well for the school. Insufficient yield from the wells resulted in utilization of the old well and removal of the boiler and all other peripheral equipment and piping from the room. In addition, the old underground oil storage tanks (UST) were removed and replaced outside of the Zone I protective radius of the well.

The Zone I protective radius for Well #1 is 328 feet and the Interim Wellhead Protection

What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused. Each well has a Zone I protective radius and an Interim Wellhead Protection Area (IWPA).

- **The Zone I** is the area that should be owned or controlled by the water supplier and limited to water supply activities.

- **The IWPA** is the larger area that is likely to contribute water to the well.

In many instances the IWPA does not include the entire land area that could contribute water to the well. Therefore, the well may be susceptible to contamination from activities outside of the IWPA that are may not be identified in this report.

What is Susceptibility?

Susceptibility is a measure of a well's potential to become contaminated due to land uses and activities within the Zone I and Interim Wellhead Protection Area (IWPA).

Area (IWPA) radius is 1,136 feet. The Zone I and IWPA protective radii are based on an approved pumping rate of 33,120 gallons per day established through a 1991 pumping test and estimated maximum future water demands. Please refer to the attached map that shows the Zone I and IWPA.

Well #1 is a 6-inch diameter well drilled to a depth of 205 feet in the late 1950's. The well has a watertight cap and is finished above grade, in a room with a concrete floor; there is no information regarding a deep sanitary seal around the casing. No drilling records are available for the well other than the steel well casing was driven 35 feet, where bedrock was encountered. There is no description of the overburden material from the driller's log. Borings in the vicinity of the well report the overburden ranges from fine sand and silt to clay with thickness ranging from 17 feet to greater than 35 feet to bedrock. Bedrock mapping of the area and driller's logs from the 1991 drilling efforts indicate the bedrock is a carbonate rock of the Stockbridge Formation consisting primarily of dolomite and marble. Bedrock wells drilled in these conditions are considered highly vulnerable to potential contamination from the ground surface because there is no significant, continuous hydrologic barrier to contaminant migration.

Water Quality

At the time this report was prepared, the Mount Everett School well water does not require and does not have treatment. The DEP requires public water suppliers to monitor the quality of the water. For current monitoring results, please refer questions to the local contact identified in Table 1.

2. DISCUSSION OF LAND USES IN THE PROTECTION AREAS

The existing well does not meet DEP's Zone I restrictions, which only allow water supply related activities in Zone Is. There are numerous non-conforming activities within the Zone I and IWPA. The overall susceptibility ranking of the well to contamination is high, based on the proximity of the former oil tank site and the presence of numerous moderate threat land uses or activities in the IWPA. The school's current operator is diligent in monitoring activities that may pose a threat to the school's water supply. Please refer to Table 2 for a list of activities within the protection areas.

Key issues include:

1. **Activities within Zone I**
2. **Confirmed Release of Hazardous Materials Site**
3. **Septic System Components**

Table 2: Activities within the Water Supply Protection Areas

Potential Sources of Contamination*	Zone I	IWPA	Threat	Comments
Underground Storage Tank (UST)	No	Yes	High	UST is double lined, tank with interstitial monitoring
Confirmed Oil Release Site (UST)	Yes	No	**	RTN # 1-0001015 - Tier 2 – Oil release
School	Yes	Yes	Moderate	All of the school's facilities are within the Zone I or IWPA
Septic System components	Yes	Yes	Moderate	Septic tank in Zone I, Groundwater Discharge (permitted) in IWPA

* For more information on Contaminants of Concern associated with individual facility types and land uses please see the SWAP Draft Land Use / Associated Contaminants Matrix on DEP's website - www.state.ma.us/dep/brp/dws/.

** For more information on an individual site in the MCP or an updated status, please contact the WERO BWSC - 413-784-1100.

Table 2: Activities within the Water Supply Protection Areas (continued)

Potential Sources of Contamination	Zone I	IWPA	Threat	Comments
Parking and storm drains	Yes	Yes	Low	Monitor for spills and maintain catchbasins
Passive Recreation	No	Yes	Low	Athletic fields pose minimal threat provided pesticides are not used on fields. Continue policy of no fertilizer or pesticide usage.
Above Ground storage tank (AST)	No	Yes	Low	Propane storage is a minimal threat to groundwater
Utility Transformer	No	Yes	Low	Although PCBs are not likely present, MODF is present in transformers
Low Density Residential Use Septic systems and lawn care	No	Yes	Moderate	See Fact Sheets for septic and lawn care

* -For more information on Contaminants of Concern associated with individual facility types and land uses please see the SWAP Draft Land Use / Associated Contaminants Matrix on DEP's website - www.state.ma.us/dep/brp/dws/.

1. Zone I Activities - The well's Zone I contains school buildings, parking areas, and school playground.

Recommendation:

- ✓ Since it is not feasible to remove all non-water supply activities from Zone I to comply with DEP's Zone I requirements, please note that water systems not meeting DEP Zone I requirements must get DEP approval and address Zone I issues prior to increasing water use or modifying system. Monitor all existing activities, use Best Management Practices for maintenance work and prevent any new activities within Zone I.

2. Confirmed Oil Release Site - Presence of Oil Contamination Sites within the Zone I - The Zone I for Well #1 contains a DEP Tier II Classified Oil and/or Hazardous Material Release Site indicated on the map as Release Tracking Number 10001015. The release was discovered during the removal of the old oil tank that had been located near the old boiler room. The drinking water

program at the time required additional monitoring of the water quality. For information regarding the location of the site refer to the attached map. Appendix I includes additional information regarding the Massachusetts Contingency Plan (MCP) and where additional information is available.

Recommendation:

- ✓ Comply with the requirements of the MCP process and continue monitoring as appropriate.

3. Septic System Components - The holding tank is located within the Zone I of the well. However, boring logs indicate clay, in the immediate vicinity of the tank on the order of 20 to 30 feet in thickness, thereby minimizing the potential for contaminant migration to the aquifer in the event of a leak. The wastewater is treated in a small on-site secondary treatment system and discharged to a system permitted through a Groundwater Discharge Permit. Requests for additional information can be made through the WERO DEP Wastewater Program. The school does not have a tight tank to capture science laboratory and art laboratory wastewater. The science laboratory sinks reportedly are equipped with limestone traps to neutralize acids, however, these would not neutralize bases or remove any other constituents that may impact the RBC or groundwater quality. The wastewater Title 5 system has a groundwater discharge permit with water quality limits. The recharge area is on the perimeter of the IWPA, topographically downgradient from the well.

Recommendations:

- ✓ Establish a hazardous material handling/hazardous waste disposal procedure and policy for the teachers and include maintenance staff. The arts and science programs must control the disposal of any constituents that may be considered

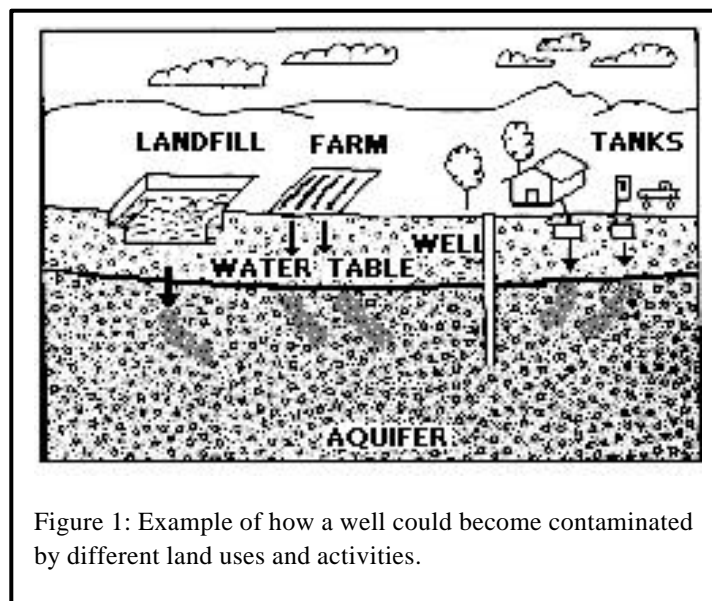


Figure 1: Example of how a well could become contaminated by different land uses and activities.

Glossary

Zone I: The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. To determine your Zone I radius, refer to the attached map.

IWPA: A 400 foot to ½ mile radius around a public water supply well proportional to its pumping rate; the area DEP recommends for protection in the absence of a defined Zone I I. To determine IWPA radius, refer to the attached map.

Zone II: The primary recharge area defined by a hydrogeologic study.

Aquifer: An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

Hydrogeologic Barrier: An underground layer of impermeable material that resists penetration by water.

Recharge Area: The surface area that contributes water to a well.

For More Information:

Contact Catherine Skiba in DEP's Springfield Office at (413) 755-2119 for more information and for assistance in improving current protection measures.

More information relating to drinking water and source protection is available on DEP's web site at:
www.state.ma.us/dep/brp/dws.

hazardous. Title 5 regulations prohibit the disposal of any non-sanitary waste to the sanitary waste disposal system. Title 5 regulations prohibit the disposal of non-sanitary waste to the sanitary waste disposal system; a tight tank or municipal sewers are used for disposal of non-sanitary waste. The school does not have a municipal sewer system near enough to connect to. Contact the Western regional office of DEP to speak with Paul Nietupski of the wastewater management program at 413-755-2118 and your local Board of Health to discuss this option.

- ✓ The school is currently not registered as a generator of hazardous waste. Review the enclosed documents "A Summary of Requirements for Small Quantity Generators of Hazardous Waste" and a fact sheet for Very Small Quantity Generators to determine your status and regulatory requirements. Contact the Massachusetts Office of Technical Assistance at 617-626-1061 regarding proper hazardous material use, storage, disposal, emergency response, and best management practices. Arrange to have potentially hazardous materials disposal available for the school staff, including the custodial staff, either through the Town's hazardous waste collection days or through other means. It is likely that the school will have to register as a Very Small Generator of Hazardous Waste to dispose of small quantities of hazardous materials. Include custodial staff, groundskeepers, certified operator, and food preparation staff in the training.

Other land uses and activities noted within the protective areas are an underground heating oil storage tank, parking areas, passive recreation and residential homes. The fuel oil tank was installed in compliance with regulations in place in 1991. Paved parking areas with drainage utilizing BMPs and discharging away from the well, pose minimal threat to water quality. Storm drains and catch basins, must however, be maintained to ensure protectiveness.

Implementing the recommendations below will reduce the system's susceptibility to contamination.

3. PROTECTION RECOMMENDATIONS

The MA DEP encourages limiting the activities near the wells and continued diligence in updating your protection measures. The Mount Everett School and District should review and adopt the following recommendations at the facility:

Zone I:

- ✓ Keep any new non-water supply activities out of the Zone I.
- ✓ Erect water supply protection signs along the perimeter of the protection areas
- ✓ Consider once again investigating an alternative water source if existing threats cannot be mitigated.
- ✓ Comply with the MCP regarding the existing release site.
- ✓ Conduct regular inspections of the Zone I. Look for illegal dumping, evidence of vandalism; check for leaks and accidental spills, etc.
- ✓ Maintain storm drains that direct road and parking lot drainage away from well, as feasible.
- ✓ Continue the current practice of not using pesticides, fertilizers within the Zone I. Minimize the use of road salt as practical.

Facilities Management:

- ✓ Establish a written plan for the science and art departments for the management of materials used in class and the proper storage and disposal of potentially harmful materials. These types of materials are primarily used in the senior high school science

Additional Documents:

To help with source protection efforts, more information is available by request or online at www.state.ma.us/dep/brp/dws, including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix

Copies of this assessment have been provided to the water supplier, town boards, the town library and the local media.

labs and the arts department. Contact the Massachusetts Office of Technical Assistance at 617-626-1061 regarding proper hazardous material use, storage, disposal, emergency response, and best management practices.

- ✓ Post sinks as appropriate with a reminder to students and staff that only sanitary waste is disposed of in the sinks.
- ✓ Contact the local BOH and the DEP regarding a tight tank to dispose of senior high science and art lab waste.
- ✓ If you do not have a storm water maintenance plan, develop one. Maintenance plans should include an inspection and maintenance schedule. Inlets should be cleaned out a minimum one time per year and inspected quarterly. The outfall should be inspected annually for structural integrity and determine if it needs to be cleaned. Catch basin cleanings are classified as a solid waste and must be handled and disposed of in accordance with all DEP regulations, policies and guidance.

Planning:

- ✓ Work with local officials in town to include the facility IWPA in the Aquifer Protection District Bylaws.
- ✓ Have a plan to address short-term water shortages and long-term water demands. Keep the phone number of a bottled water company readily available.
- ✓ Supplement the SWAP assessment with additional local information and incorporate it into water supply educational efforts. Use a potential contaminant threat inventory to assist in setting priorities, focusing inspections, and creating educational activities.

These recommendations are only part of your ongoing local drinking water source protection. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures.

4. ATTACHMENTS

- Map of the Public Water Supply (PWS) Protection Area
- Recommended Source Protection Measures Fact Sheet
- Your Septic System Brochure
- Very Small Quantity Generator of Hazardous Waste Fact Sheet
- Site/Reportable Release Lookup – Table from DEP BWSC Website - Sheffield

5. APPENDICES

- APPENDIX 1 – Table of Tier Classified Oil and/or Hazardous Material Sites within the Water Supply Protection Areas

APPENDIX 1 – Table of Tier Classified Oil and/or Hazardous Material Sites within the Water Supply Protection Areas – Bureau of Waste Site Cleanup

DEP's data layer depicting oil and/or hazardous material (OHM) sites is a statewide point data set that contains the approximate location of known sources of contamination that have been both reported and classified under Chapter 21E of the Massachusetts General Laws. Location types presented in the layer include the approximate center of the site, the center of the building on the property where the release occurred, the source of contamination, or the location of an on-site monitoring well. Although this occurred, the source of contamination, or the location of an on-site monitoring well. Although this assessment identifies OHM sites near the source of your drinking water, the risks to the source posed by each site may be different. The kind of contaminant and the local geology may have an effect on whether the site poses an actual or potential threat to the source.

The DEP's Chapter 21E program relies on licensed site professionals (LSPs) to oversee cleanups at most sites, while the DEP's Bureau of Waste Site Cleanup (BWSC) program retains oversight at the most serious sites. This privatized program obliges potentially responsible parties and LSPs to comply with DEP regulations (the Massachusetts Contingency Plan – MCP), which require that sites within drinking water source protection areas be cleaned up to drinking water standards.

For more information about the state's OHM site cleanup process to which these sites are subject and how this complements the drinking water protection program, please visit the BWSC web page at <http://www.state.ma.us/dep/bwsc>. You may obtain site -specific information two ways: by using the BWSC Searchable Sites database at <http://www.state.ma.us/dep/bwsc/sitellst.htm>, or you may visit the DEP regional office and review the site file. These files contain more detailed information, including cleanup status, site history, contamination levels, maps, correspondence and investigation reports, however you must call the regional office in order to schedule an appointment to view the file.

The table below contains the list of Tier Classified oil and/or Hazardous Material Release Sites that are located within your drinking water source protection area.

Table 1: Bureau of Waste Site Cleanup Tier Classified Oil and/or Hazardous Material Release Sites (Chapter 21E Sites) - Listed by Release Tracking Number (RTN)

RTN	Release Site Address	Classification	Town	Contaminant Type
1-001015	Mount Everett School	Tier II	Sheffield	Oil

For more location information, please see the attached map. The map lists the release sites by RTN.